

Team Expo: A State-of-the-Art JSC Advanced Design Team

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In concert with the NASA-wide Intelligent Synthesis Environment Program, the Exploration Office at the Johnson Space Center has assembled an Advanced Design Team. The purpose of this team is two-fold. The first is to identify, use, and develop software applications, tools, and design processes that streamline and enhance a collaborative engineering environment. The second is to use this collaborative engineering environment to produce conceptual, system-level-of-detail designs in a relatively short turnaround time, using a standing team of systems and integration experts. This includes running rapid trade studies on varying mission architectures, as well as producing vehicle and/or subsystem designs. The standing core team is made up of experts from all of the relevant engineering divisions (e.g. Power, Thermal, Structures, etc.) as well as representatives from Risk and Safety, Mission Operations, and Crew Life Sciences among others. The Team works together during 2-hour sessions in the same specially enhanced room to ensure real-time integration/identification of cross-disciplinary issues and solutions. All subsystem designs are collectively reviewed and approved during these same sessions. In addition there is an Information sub-team that captures and formats all data and makes it accessible for use by the following day. The result is Team Expo: an Advanced Design Team that is leading the change from a philosophy of "over the fence" design to one of collaborative engineering that pushes the envelope to achieve the next-generation analysis and design environment.